

Phil 8: Introduction to the Philosophy of Science

UCLA, Spring 2016

Course Information

MW 12:00-1:50

Rolfe 1200

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Required Text

- (i) *An Introduction to the Philosophy of Science: Theory and Reality*, by Peter Godfrey-Smith
The University of Chicago Press. 2003.
- (ii) All additional assigned readings are available on our course website:
<https://ccl.e.ucla.edu/course/view/16S-PHILOS8-1>

Lecture Outlines

Lecture outlines are available on our course website, and will be posted in advance of each lecture. You may use them as a study tool in whatever way you see fit, though you are responsible for accessing them. I recommend using them *after* class to check against your own notes. **No copies of outlines will be provided in lecture.**

Lecture outlines are *not* meant to be comprehensive summaries of class content, and you are responsible for everything in lecture *regardless* of whether it has appeared on an outline.

Evaluation

Papers: You will be assigned **four two-page** papers over the course of the quarter. **Each paper is worth 15% of your final grade.** Paper topics will be provided for you. Refer to the schedule below for paper assignment and due dates. (April 20th, May 4th, May 25th, June 6th)

PLEASE NOTE: Late papers will be accepted, but you will lose 10% of your final grade for every 24-hour period that the paper is late. (For example, if the paper is due Wednesday and you fail to hand it in, you have until NOON on Thursday to turn it in for a loss of only 10% of your paper grade, until NOON on Friday for a loss of only 20%, and so on.) In very special circumstances, paper extensions will be granted, but you *must* notify your TA about your situation *before* the paper is due, as soon as it is practical to do so.

Midterm: You will take an in-class midterm on May 2nd. The midterm format will be multiple choice. More information about the content of the midterm will be provided near mid-April. **Your midterm is worth 10% of your final grade.**

Final: You will take a final exam on June 6th. The final will be the same format as the midterm *except that* it will include one written essay. More information about the content of the final will be provided in early December. **Your final is worth 20% of your final grade.**

Attendance and Participation: Your attendance in lecture is *not* mandatory, though you are responsible for all information covered in lecture. Most students will find it *very* difficult to do well in this course without regularly attending lecture. If you need to miss a lecture, it is a good idea to arrange to borrow a fellow classmate's notes. Neither your TA nor I will provide you with notes for lectures that you have missed (other than the posted course outlines).

Attendance in recitation *is mandatory*. Your TA will take attendance. Furthermore, class discussion is an *essential* feature of any good philosophy class. Recitation is your opportunity to ask questions, make points, clarify issues, and complain about me. Recitation discussion will make your time in class much more fruitful and enjoyable. Accordingly, **10% of your final grade** will be a function of your attendance and participation.

If there is anything that your TA or I can do to make you personally feel more comfortable interacting during class, please do not hesitate to let us know.

Completion: Turning in each 2-page paper and taking both the midterm and the final are *required* for receiving a passing grade in this class. If you do not complete each of these requirements, you will fail this course *even if* your numerical grade is above failing. Remember that it is your responsibility to contact your TA or me about any missing work.

Conduct Code: In accord with the UCLA Student Conduct Code (available in full at http://www.deanofstudents.ucla.edu/Code_choice.php), take care to submit only work that is your own.

Undergraduate Writing Center

The Undergraduate Writing Center offers UCLA undergraduates one-on-one sessions on their writing. The Center is staffed by peer learning facilitators (PLFs), undergraduates who are trained to help at any stage in the writing process and with writing assignments from across the curriculum.

Services

Scheduled appointments

- 50-minute appointments in A61 Humanities
- 30-minute appointments in Reiber 115 (for dorm residents only)
- work in person with a Peer Learning Facilitator (PLF)

Walk-in appointments

- walk-in appointments available in A61 Humanities & Reiber 115
- first-come, first-served

Online Writing Center (OWC):

- 50-minute appointments
- submit your paper online, using Google Docs
- discuss your paper with a Peer Learning Facilitator, using Google Voice Chat

What you should bring to the Writing Center:

- A draft if you have one
- Preliminary notes or writing if you don't have a draft
- A copy of the assignment
- Instructor or peer comments on your paper
- Copies of readings or research related to the assignment.

Locations

A61 Humanities; Mon. – Thurs. 10AM – 6PM; Fri. 10AM – 3PM
Reiber 115; Sun. – Thurs., 7 – 9 PM (for dorm residents only)

Appointments

Students can walk-in but appointments are preferred. Visit our website:
www.wp.ucla.edu.

Click on “UCLA Writing Center/Make an Appointment.”

Contact

310-206-1320; wcenter@ucla.edu

Reading Schedule

Many days have been divided into two halves (“A” and “B”): each associated with a different topic and assigned reading. **Be advised:** you are responsible for *both* the A and B reading for each day. Also, while I will do my best to keep us on the following reading schedule, it is **subject to change** (with the following exceptions: paper assignment due dates will never be *earlier* than the schedule indicates, paper assignments will always be given *on the day* that the schedule indicates, and the midterm and final dates will not change.) At the end of each lecture, I’ll announce any changes in the topic/outline/reading for next lecture.

All readings are either from your book, or are available on our class website.

Induction and Confirmation

Monday, March 28th:

- A. Course Introduction
 - Syllabus
 - Reading Schedule
 - (no assigned reading)
- B. Introduction to Justification
 - Outline 1
 - (no assigned reading)

Wednesday, March 30th: NO CLASS

Monday, April 4th:

- A. Problem of Induction
 - Outline 2
 - Reading: “An Encounter with David Hume” (Available Electronically) (Wesley Salmon, from Joel Feinberg, Reason and Responsibility, pp. 190-208)
- B. Problem of Induction continued

Wednesday, April 6th:

- A. Background
 - Outline 3
 - Reading: Theory and Reality: Chapter 1
- B. Logical Positivism
 - Outline 4
 - Reading: Theory and Reality: Chapter 2

Monday, April 11th:

- A. The Hypothetical-Deductive Method
 - Outline 5

- Reading: “The Hypothetico-Deductive Method” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)
- B. Objections to the H-D Method
 - Outline 6
 - Reading: **Read up to section 4, read section 10** “Physical Theory and Experiment” (Available Electronically) (excerpt from Pierre Duhem, *The Aim and Structure of Physical Theory*, trans. Philip P. Wiener (Princeton, N.J.: Princeton University Press, 1954)

Wednesday, April 13th:

- A. Qualitative Confirmation
 - Outline 7
 - (no assigned reading)
- B. The Ravens Problem
 - Outline 8
 - Reading: Theory and Reality: Chapter 3.1-3.3
 - Paper Assignment #1: Due Wednesday, April 20th

Monday, April 18th:

- A. The Pragmatic Vindication of Induction
 - Outline 9
 - Reading: “Pragmatic Vindication” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)
- B. The New Riddle of Induction
 - Outline 10
 - Reading: Theory and Reality: Chapter 3.4

Demarcation, Creationism, and Evolutionary Theory

Wednesday, April 20th:

- A. Falsificationism
 - Outline 10
 - Reading: Theory and Reality: Chapter 4.1-4.4
- B. Criticism
 - Outline 11
 - Reading: Theory and Reality: Chapter 4.5, 4.6

Monday, April 25th:

- A. Creationism and Demarcation
 - Outline 12
 - Reading: Ruse Witness Testimony Sheet. (Available Electronically)
- B. Criticism
 - Outline 13
 - Reading: “Science at the Bar” (Available Electronically) (Larry Laudan.)

Wednesday, April 27th:

- A. Evolutionary Theory and Demarcation
 - Outline 14
 - “Darwin Redux” (Available Electronically) (Philip Kitcher. Excerpt from *Abusing Science: The Case Against Creationism*. MIT Press: Cambridge, MA 1984 pp 30-63)
- B. Housekeeping
 - Wrap up of units 1 and 2.
 - Paper assignment #2, due Wednesday, May 4th

Monday, May 2nd:
❖ MIDTERM

Relativism, Realism, and Anti-Realism

Wednesday, May 4th :

- A. Kuhn and Normal Science
 - Outline 15
 - Reading: Theory and Reality: Chapter 5
- B. Kuhn and Normal Science Continued

Monday, May 9th:

- A. Kuhn and Revolutions
 - Outline 16
 - Reading: Theory and Reality: Chapter 6
- B. Kuhn and Revolutions Continued

Wednesday, May 11th:

- A. Lakatos, Laudan, Feyerabend, and Frameworks
 - Outline 17
 - Reading: Theory and Reality: Chapter 7
- B. Lakatos, Laudan, Feyerabend, and Frameworks continued

Monday, May 16th:

- A. Feminism and Science Studies
 - Outline 18
 - Reading: Theory and Reality: Chapter 9
- B. Feminism and Science Studies Continued

Wednesday, May 18th:

- A. Realism
 - Outline 19
 - Reading: Theory and Reality: Chapter 12.1-12.4
- B. Anti-Realism
 - Outline 20
 - Reading: Theory and Reality: Chapter 12.4-12.6
 - Reading: Forward (to On the Revolutions of Heavenly Bodies) by Andreas Osiander (Available Online)
 - Paper Assignment #3: Due Wednesday, May 25th

Scientific Explanation and the Laws of Nature

Monday, May 23rd:

- A. Deductive-Nomological Model
 - Outline 20
 - Reading: “The Deductive-Nomological Pattern of Scientific Explanation”, “Problems for the D-N Pattern of Explanation” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)
- B. Inductive-Statistical Model
 - Outline 21

- Reading: “Two Patterns of Statistical Explanation”, “Criticisms of the I-S Pattern of Scientific Explanation”, (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)

Wednesday, May 25th:

- A. More on Explanation
 - Outline 22
 - Reading: Theory and Reality: I3.3, I3.4
- B. Pragmatics of Explanation
 - Outline 23
 - “The Pragmatics of Explanation” (Available Electronically) (John Earman and Wesley Salmon, from Introduction to Philosophy of Science, by the HPS Department of the University of Pittsburgh, 1992)
 - Paper Assignment #4: Due Monday, June 6th

Monday, May 30th: Memorial Day/No Class

June 1st:

- A. What are laws, anyway?
 - Outline 24
- B. Final Review

Monday, June 6th:

- ❖ FINAL EXAM: 8 AM- 11 AM
- ❖ PAPER ASSIGNMENT #4 DUE AT 8 AM